

## **HSMS Implementation at the Detroit Arsenal—Lessons Learned**

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### Mission and Vision:

U.S. Army Tank-Automotive and Armaments Command (TACOM) is a Major Subordinate Command to the U.S. Army Materiel Command and is the Army's Headquarters for mobility and firepower.

### Mission:

To support Army readiness, TACOM's mission is to research, develop, field and support mobility and armament systems through their total life cycle. This includes all combat and tactical vehicles, trailers, construction equipment, material handling equipment, tactical bridges, fuel and water distribution equipment, sets, kits, and outfits, shop equipment, chemical defense equipment, howitzers, large caliber guns, mortars, rifles, machine guns, ammunitions, aircraft armaments, demolitions and explosives, rail, watercraft petroleum and lubrication equipment.

TACOM is "Committed to Excellence" in the total-force endeavors of taking America's Army into the 21<sup>st</sup> Century. We ensure the Army is a precisely equipped strategic force, capable of power projection and decisive victory.

### Vision:

To make the technology and sustainment systems work for soldiers through the seamless integration of science and technology, research and development, acquisition, logistics sustainment and soldier readiness. Also, to create a business environment at TACOM where every associate understands the requirement to control costs and manages from the customer perspective and understands his or her inherent responsibility to do so.

### TACOM-Warren Background

The Detroit Arsenal is an Army Materiel Command (AMC) installation located in Warren, Michigan, just a few miles north of Detroit. By Army standards, the Detroit Arsenal is small, consisting of 25 buildings/building complexes. The primary activity at the Detroit Arsenal is the Tank-Automotive and Armaments Command (TACOM) which carries out an industrial production and R&D mission. TACOM-Warren, home of

TACOM headquarters, includes nine major business centers and other organizations: Tank-automotive, Research, Development, and Engineering Center (TARDEC); Integrated Materiel Management Center (IMMC); Resources Management Center; Program Management Tank Automotive Weapon Systems; Acquisition Center, Program Management Light Armored Vehicles (PM-LAV), and Project Manager Tank-Automotive Weapon Systems (PM- TAWS).

### An Idea with Merit

The implementation of an automated tracking and management system (HSMS) to control the "life cycle management" of all hazardous materials used at the installation met with some reluctance. One of the most frequently encountered barriers was personnel's resistance to change. They have experienced the shortcomings of the Automated Material Acquisition System (AMAS) and the tendency was to find the path of least resistance to accomplish their mission. Taking the approach of personnel involvement and system knowledge helped to gain their confidence in the HSMS program and what it could do to enhance their respective missions. The idea of a computer-friendly interface with the HMCC, and using the familiar tools already available, reduced the learning curve for material procurement, issue, use and disposal. A biweekly newsletter was provided to each customer during the implementation process informing the individuals of the implementation progression, system updates, system interaction and exchange of ideas with the customer and the implementation team. The interaction between the customer and the HMCC allowed the transition to be timely and customer oriented. The customers realized a greater benefit to the program than the control and management aspect, they no longer were required to prepare documentation to purchase their materials, go pick up their materials and prepare disposal documentation for waste materials. The system did this tedious requirement for them, so that they could perform their respective mission more professionally and in a timely manner.

### Implementation History:

The Detroit Arsenal wasn't scheduled to implement the mandated DoD Hazardous Substance Management System (HSMS) until FY02. Knowing this to be the implementation schedule, and the installation's receipt of a notice of finding deficiency involving the tracking and management of hazardous materials, we elected to find a migratory system that could be implemented. The DM-HMMS program is what was chosen after researching various off the shelf programs to attain our goal of a comprehensive system that could satisfy our requirements. After a technical site visit by NCI Information Systems Inc., a package was selected based on functionality, flexibility and cost. With the size of our installation and the support of our commanding general, the Detroit Arsenal decided to implement a project that would track, control and manage all hazardous materials used on our installation. The decision to implement a fully functional program would serve as a model for other installations under the jurisdiction of TACOM.

Communication avenues with AMC were intensified to find an opening that would allow the Detroit Arsenal to implement the Hazardous Substance Management System (HSMS) instead of a migratory system. Lake City Army Ammunition Plant was scheduled to implement the HSMS program in FY97 however, elected to wait on their implementation to a later date. Knowing this to be true, the Detroit Arsenal aggressively attempted to acquire this vacancy. The advanced preparation and dedication of our work group enabled the Detroit Arsenal to be selected for this vacancy.

The Detroit Arsenal established a HSMS Implementation Work Group (Green Team) comprised of representatives from the Safety Office, Base Operations Contractor, Environmental Office, TARDEC, and the Directorate of Installations and Services. The first order of business for the team was to formulate our charter and have it approved by our installation manager. Next was to establish our goals and business practices that would be instrumental in the success of the program. The goals that the Detroit Arsenal established for implementation of a tracking and management system were to:

- provide a tool for facility personnel to help in the management of hazardous materials,
- provide a mechanism to access inventory information,
- increase accuracy of regulatory reports,
- reduce redundancy and required inventory,
- reduce labor required for regulatory reporting and inventory management,
- establish a centralized facility to manage hazardous materials.

In preparation of the HSMS program, our team began an extensive amnesty collection and turn in of excess materials throughout the installation. The turn in of excess materials from the installation encompassed a five-month period. The result was fruitful, with approximately 4,500 gallons of usable materials, and an additional 33,000 gallons of usable fuel was collected. Our team found various agencies in need of our excess materials and prepared documentation to ship these materials free of charge. This effort resulted in a cost savings/avoidance of approximately \$215,000 for the Detroit Arsenal.

The initial site visit briefing for the Detroit Arsenal occurred on 28 July 97. At this briefing the guidelines were established to implement Full Operational Capability (FOC) configuration. This method of implementation is totally different from the norm. The Detroit Arsenal thought because of our size and our commitment to our goals, we would include the entire installation in the program all at once, as opposed to segmenting various organizations one at a time into the program. The Hazardous Substance Management System Work Group (HSMSWG) provided guidance during the implementation efforts. Following completion of the implementation efforts, the Installation Hazardous Materials Committee (IHMC) was established and replaced the HSMSWG to provide installation-wide management and control of Hazardous Material and Hazardous Waste generation. The Detroit Arsenal components of the IHMC are defined in the Detroit Arsenal Charter. The Detroit Arsenal is a contractor operated Department of Public Works installation, which presents a challenging implementation process.

Training and an understanding of the automated system and its functionality became increasingly important for a well-organized implementation process. A trip to Ft Campbell, KY and White Sands Missile Range, NM, was conducted to review their HSMS programs, and gain insight on program operations. Additionally, HSMS "101" training was provided by the Army Environmental Center. This training offered a well rounded module on HSMS, and provided an understanding of centralized hazardous material control, storage, issue, reuse and recycling.

#### Purpose of the HMCC

The basic premise of the "HAZMART" concept is the centralized control of hazardous material entering the installation. The implementation of the Hazardous Material Control Center (HMCC) using the "HAZMART" concept at the Detroit Arsenal will be key to reducing the amount and types of HM brought on post. A closely related effect of implementing the concept is the reduction of hazardous waste. The HMCC will be the issue point where all HM is procured, received, stored, and issued. The HMCC will also pick up waste materials, partial containers of materials and process these materials accordingly. The centralized facility meets the needs of our customers by being customer friendly and customer oriented.

HMCC operations will incorporate the following:

- shelf-life management of HM;
- single point control of all HM;
- turn-in and reuse of HM;
- turn-in and recycling of spent HM and/or HW;
- re-stocking delivery service for HM/HW provided by HMCC;
- one-week shop stock at user locations; and
- two-week contingency stocks maintained at the HMCC.

There are numerous benefits to be derived from the establishment of the "HAZMART" concept. They include:

- reducing duplicate stockage and stockpiling of HM;
- controlling and reducing the quantity and types of products locally procured;
- reducing fines and penalties as a result of Notice of Violations (NOVs);
- increasing Pollution Prevention (P2) opportunities through material substitution;
- decreasing the potential for spills and releases;
- extending shelf-life;
- increasing the visibility and control of HM entering the installation;
- tracking from "cradle-to-grave," ("life cycle management")
- reducing HW disposal costs;
- reducing acquisition cost through re-use; and
- reducing liability and potential personnel health and safety risks.

#### Check and Balance Program

Unexpected and substantial changes in the HMCC's procurement procedures created significant obstacles during the implementation process. The Detroit Arsenal is

transitioning away from credit card purchases and use of the Army Material Command Installation Supply System (AMCISS) to procure hazardous materials, towards a "Just-In-Time" procurement philosophy. Implementation of these changes were accomplished with two goals in mind: first, to reduce labor and cost for purchase of materials; and second, to reduce the quantities of materials stored on-site. These goals were accomplished through "just-in-time" supply contracts with local vendors. The HMCC personnel are the only personnel authorized to procure hazardous materials with a credit card, unless an "emergency" procurement necessitates otherwise.

The "emergency" procurement of materials must be annotated with the HMCC on the first business day after the emergency purchase for accountability and tracking purposes. The only way to monitor if our customers are reporting all of the hazardous materials they purchased throughout the year with the current credit card procedures is to conduct periodic audits of credit cards and storage areas.

#### Lessons Learned:

The most valuable lessons learned throughout the implementation process can and should be applied to any federal facility implementing an automated hazardous material tracking and management system. The lessons learned at the Detroit Arsenal were:

- **Business Practices.** Existing practices can be changed, develop policies and procedures to be applied facility-wide to improve the stature of the installation.
- **Listen to the End Users.** The personnel who will actually be using the HSMS on a daily basis can provide valuable feedback on how the system works in the "real world".
- **Be Flexible.** The Detroit Arsenal found being flexible in the manner it addressed the implementation issues and involving end users in the process improved the implementation.
- **Continuous Improvement Process.** Implementation and maintenance of HSMS requires a continuous improvement process, as we progress to the Environmental Inventory Management (EIM). The world we live in today changes rapidly. HSMS will need to cope with these changes as rapidly as possible.
- **Implementation Contractor.** Work closely with your respective contractor; listen to their suggestions even if they deviate from your original methodology. The implementation of HSMS can be a well-orchestrated transition if everyone concerned has an open mind and is willing to change for the well being of the program.
- **Stay Focused.** Implementing an automated tracking and management system is very wearing and time consuming on both personnel implementing the system and customers who will be using the program. Those who are focused, flexible and willing to change create good things.

#### Conclusion:

The Detroit Arsenal began its implementation of an automated hazardous material tracking and management system with six major goals. The main focus of these goals

was to provide a tool to the HMCC personnel to assist them in the management of hazardous materials, reduce labor cost for both inventory management, documentation of hazardous waste generation and provide a computer friendly easy access to inventory information. To successfully implement a hazardous material tracking system, the HMCC required a system that would be a stand alone program, allow access by numerous customers, provide a user friendly interface, and streamline the procurement and management requirements, and automate regulatory reporting demands.

The Detroit Arsenal successfully overcame all obstacles associated with the implementation process, to include pushing the system to its breaking point by using the system as an accounting system. The HSMS is not intended to be an accounting program, but rather a tracking, control and management tool. However, with the expertise of our data base administrator and our system administrator, along with the assistance of our implementation contractor (Dynamac Corporation), we were able to track cost for each business center and report this information to the program control manager for budgeting, to accomplish a check and balance. Once, this function has reliable history and accountability, the Detroit Arsenal will submit a System Change Request (SCR) to be incorporated for all HSMS users.

Throughout the ten-month implementation process that was finalized and operational on 15 May 98 the established business practices at the Detroit Arsenal became more visible as working document that enhanced our vision and mission. We became more aware of how the installation could save precious revenue and reduce our liability concerning health and safety issues. The benefits of the program will be realized over a period of time using the system and making necessary system changes.